

CLAIMS

What is claimed is:

1. A method of culturing solid Zang Zhi comprising the use of "Bag Log" inoculated with spawn to culture mycelium and then removing the "Bag Log" to let the sawdust medium be completely exposed in the air for a period of time until the formation of the conoid fruiting body is made, wherein the "Bag Log" contains 10-70% of cellulolytic substance, 10-30% of starch resource, 5-15% of millet, 1-10 % of saccharides, 0.5-2% phosphate, and 0.1-1% sulfate salt, the relative humidity is maintained at 60-80% and the pH of the cultural medium is adjusted to be neutral.
2. The method according to Claim 1, wherein the "Bag Log" is composed of 60-70% of the cellulolytic substance, 20% of starch source, 10% of millet, 3.5% of glucose, 1% of potassium phosphate, and 0.5% of magnesium sulfate, the relative humidity is at 80% and pH is adjusted to be neutral.
3. The method according to Claim 1, wherein the cellulolytic substance is mushroom or stem, stalk, fruit, or spelk of the plant.
4. The method according to Claim 2, wherein the cellulolytic substance is mushroom or stem, stalk, fruit, or spelk of the plant.
5. The method according to Claim 1, wherein the source of the starch is potato.
6. The method according to Claim 2, wherein the source of the starch is potato.
7. The method according to Claim 1, wherein the millet is rice bran.
8. The method according to Claim 2, wherein the millet is rice bran.

9. The method according to Claim 1, wherein the "Bag Log" is composed of 65 % of the stems, stalks, fruits of grass plants or cellulolytic spelk, 20% of potato, 10% of rice bran, 3.5% of glucose, 1% of potassium phosphate, and 0.5% of magnesium sulfate.
10. The method according to Claim 2, wherein the "Bag Log" is composed of 65% of the stems, stalks, fruits of grass plants or cellulolytic spelk, 20% of potato, 10% of rice bran, 3.5% of glucose, 1% of potassium phosphate, and 0.5% of magnesium sulfate.
11. The method according to Claim 1, wherein the temperature for the culture of mycelium is between 5°C and 28°C.
12. The method according to Claim 11, wherein the temperature for the culture of mycelium is 28°C.
13. The method according to Claim 1, wherein the humidity of "Bag Log" is 60-80%.
14. The method according to Claim 1, wherein the humidity of "Bag Log" is 80%.
15. The method according to Claim 1, wherein the condition of air for the culture of mycelium is of 0.2-1% carbon dioxide.
16. The method according to Claim 1, wherein the culture of the fruiting body is done in the moving air.
17. The method according to Claim 16, wherein the culture of the fruiting body is being done at the temperature of 20-30°C during the day and at the temperature of 8-14°C at night.
18. The method according to Claim 17, wherein the culture of the fruiting body is done at the temperature of 24-26°C during the day and at the temperature of 10-12°C at night.
19. The method according to Claim 18, wherein the temperature difference between the day and the night is 15°C.

20. The method according to Claim 1, wherein the air humidity for the culture of the fruiting body is at 90-95%.

21. The method according to Claim 20, wherein the air is of less than 1% of carbon dioxide.

22. The method according to Claim 1, wherein the culture of mycelium takes 50-80 days; the culture of the fruiting body takes 20-50 days.

23. A solid fruiting body of Zang Zhi obtained from the method according to Claim 1, which has the same characteristics of physiological activities of triterpenoid as that of wild Zang Zhi.

24. The method according to Claim 1, wherein before the mycelium culture, there is the culture of a large quantity of bacteria comprising (1) a sample piece of medium agar containing hyphae preserved in the liquid nitrogen and transferred into a fresh medium to culture at the constant temperature; (2) until the exuberant growth of mycelium appears; inoculate the spawn into the "Bag Log" containing a cellulolytic substance; (3) wait for the overgrowth of hyphae in the "Bag Log"; remove the supra-old hyphae, and then inoculate an amount of spawn into the "Bag Log."

25. The method according to Claim 1, wherein before mycelium culture, there is the culture of a large quantity of bacteria comprising the culture of a large quantity of spawn with liquid fermentation. That is to say, after culturing them in the slide tube, inoculate the mass-cultured spawn into 5 liters of liquid fermentation, at the temperature of 24-26°C, under 240 rpm oscillation for 14 days, and then 90rpm oscillation for 14 days, after that inoculate into 20 liters of liquid fermentation, stir to culture for 14 days. The formula of liquid fermentation is 1-3% of fructose, 0.01- 0.1% of magnesium sulfate, 0.1-1% of yeast extract, 0.05-0.5% of potassium phosphate.

26. The method according to Claim 25, wherein the formula of liquid fermentation is 2% of fructose, 0.05% of magnesium sulfate, 0.5% of yeast extract, and 0.1% of potassium phosphate.

27. A solid fruiting body of Zang Zhi, which use the spawn coded CCRC 35398 as deposited in the Food Industry and Development Institute, and obtained from the method according to Claim 1, wherein the cultured solid Zang Zhi fruiting body has the characteristics of physiological activities of triterpenoid the same as those wild Zang Zhi, which is conoid, 10-
5 20 cm in diameter, 20-30 cm in height, and 0.3-0.5 kilogram in weight.

28. A Zang Zhi fruiting body product, which is characterized by the solid fruiting body of Zang Zhi according to Claim 27 ground into tiny pieces and then homogenized with water or alcohol to concentrate them to become sticky so as to get a concentrated liquid.

29. The product according to Claim 28, which can be dehydrated to make dry powder.

30. The product according to Claim 29, wherein the powder can be re-wetted and then re-dried to make products of granule.

31. The product according to Claim 28, which is used as food composition.

32. The solid fruiting body of Zang Zhi according to Claim 27, which has the function for liver protection.

33. The solid fruiting body of Zang Zhi according to Claim 27, which can cure or inhibit the growth of cancer cells.

34. The solid fruiting body of Zang Zhi according to Claim 33, wherein the cancer cells are cervix cancer (HeLa), stomach cancer (AGS), breast cancer (MCF- 7) liver cancer (HePG2) and bowel cancer (COLO 320 HSR).

35. The solid fruiting body of Zang Zhi according to Claim 27, which is used to inhibit peroxide reaction.

36. The solid fruiting body of Zang Zhi according to Claim 27, which is used for anti-free radical and anti-lipid peroxide reaction.

37. A food composition comprising the solid fruiting body of Zang Zhi according to Claim 27 or the processed products thereof.

38. A food composition according to Claim 37 for use in liver protection.

39. A food composition according to Claim 37 for use in curing or inhibiting the growth of cancer cells.

40. A food composition according to Claim 37 for use in inhibiting peroxide reaction.

41. A food composition according to Claim 37 which exhibits anti-free radical or anti-lipid peroxide activity.

42. A pharmaceutical composition which is made of the solid fruiting body of Zang Zhi according to Claim 27 or the processed products thereof.

43. A pharmaceutical composition according to Claim 42 for use in liver protection.

44. A pharmaceutical composition according to Claim 42 for use in curing or inhibiting the growth of cancer cells.

45. A pharmaceutical composition according to Claim 42 for use in inhibiting a peroxide reaction.

46. A pharmaceutical composition according to Claim 42 which exhibits anti-free radical or anti-lipid peroxide activity.

47. The solid fruiting body of Zang Zhi according to Claim 27 which has the same function as that of wild Zang Zhi, including tranquilization, prevention from or treatment of a cold, promoting vital energy circulation, removing blood stasis, promoting blood circulation, relief of dyspepsia, detoxifying and promoting the subsidence of swelling, calming the nerves to
5 reduce stress, alleviating pain, inhibiting bacteria, virus, and cancer cells, strengthening the heart, adjusting immunity, and antagonizing the parasympathetic nervous system and serous activity. Zang Zhi can cure a stomachache and bowel ache, nausea, diabetes, gout, arthritis, infection, allergy, exorbitant urine proteins, uremia, cirrhosis, hepatoma, and flu.

48. The solid fruiting body of Zang Zhi according to Claim 27, which has skin-regeneration function and can be used as recovery material or body skin.

49. The solid fruiting body of Zang Zhi according to Claim 45, which can be made as a tab to cure bedsores and skin wounds.